

Appl. No. 09/590,657
59.0027

REMARKS/ARGUMENTS

This Amendment is intended to be a complete response to the Office action of January 9, 2004 and the case is believed to be in condition for allowance. Accordingly, reconsideration is respectfully requested.

Status of the Claims

Claims 1-20 are pending in the application. Claims 1-6, 8-9, 12-14 and 16-18 were rejected in the Office action. Claims 7, 10-11, 15, 19 and 20 were objected to in the Office action. Claims 2, 7, 10, 15, 17 and 19 are amended herein. Claim 1 and 3 are cancelled.

Allowable Subject Matter

Claims 7, 10, 15 and 19 have been rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 11 depends on claim 10 and claim 20 depends on claim 19. Claims 7, 10, 15, 17 and 19 have been amended to address the objections made on certain informalities.

The Claims

35 USC 103

Independent claim 1 and its dependent claims 3-4, 6 and 8-9 were rejected under 35 U.S.C 103(a) as being unpatentable over Lyon et al. (US 5838727) in view of Goodman et al. (US 5473321). Dependent claims 2 and 5 and independent claims 12 and 16 and their respective dependent claims 13-14 and 17-18 were rejected under 35 U.S.C. 103(a) over the combination of Lyon et al. (US 5838727), Goodman et al. (US 5473321) and Hjelm et al. (US 6647067).

Claim 2 has been rewritten as an independent claim incorporating the limitations of previously submitted claims 1 and 3; claims 1 and 3 are cancelled herein.

Appl. No. 09/590,657
59.0027

Applicants note that Goodman et al. discloses a method wherein an error signal is computed by subtracting the output from a filter-equalizer from a signal from a training sequence generator ('321 Patent, col 8, lines 40-45). Applicants do not read Goodman et al. as applying a cross-talk cancellation logic across a plurality of carriers (propagation modes) as suggested by the Examiner. Therefore Applicants do not view Goodman et al. as teaching or suggesting an adaptive cross-talk cancellation logic that adjusts samples on the first propagation mode by values that are a function of the samples of the second propagation mode as claimed in the present application. Applicants traverse these rejections.

Applicants note that the slicing in Goodman et al. to which the Examiner refers relates to slicing of the filter-equalizer output (as shown as 510b on Fig. 5 in the '321 Patent). As described on page 11, lines 8 through 14, the present invention comprises a cross-talk determination logic that considers the equalizer output of more than one propagation mode or carrier. The signal slices of Goodman et al. differ from the *slicing residual* described in the present application. See Fig 7, element 605 and the description on page 12, lines 3 through 14 in the present application in this regard.

Hjelm et al. discloses computation of an estimate crosstalk across several lines or channels ('067 Patent, Fig 7) but does not teach or suggest the concept of using a *slice residual* to update a cross-talk parameter as claimed in the present application.

Regarding independent claims 12 and 16, Hjelm et al. relates to method using a reduced number of vectors (col. 9, lines 35-37) in a system that provides "an approximation computation method that requires substantially, up to 50%, less processing power, to the cost of a slight deterioration in crosstalk reduction" (col. 7, lines 1-4) over the prior art. In contrast, Lyon et al. (US 5,838,727) teaches a system in which waveforms are transmitted simultaneously over two separate channels to double the available transmission rate, comprising a receiver and line buffer capable of handling signals from two separate channels (Fig 2). As such, one skilled in the art would not be motivated to attempt to substitute the cross-talk cancellation method of Hjelm into the system taught by Lyon et al.


The various dependent claims incorporate all the limitations of their respective base claims, recite further unique and non-obvious combinations, and are therefore

Appl. No. 09/590,657
59.0027

patentable over the cited references for the reasons given in support of the independent claims and by virtue of such combinations.

It is submitted that all the claims now in the application are allowable. Applicants respectfully request reconsideration of the application and claims and its early allowance. If the Examiner believes that the prosecution of the application would be facilitated by a telephone interview, Applicants invite the Examiner to contact the undersigned at 281-285-4791. The Commissioner is hereby authorized to charge any fees that may be required, or credit any overpayment, to Deposit Account 04-1579.

Respectfully submitted,



Robin C. Nava

Registration No. 42,926

Date: 9-JUNE-2004

Schlumberger IPC
555 Industrial Blvd., MD1
Sugar Land, Texas 77478
281-285-4791
281-285-7056 (fax)
Rnava@SLB.com